175618

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

DATE: July 11, 2003

SUBJECT: American Recycling Fire, Bay City, Bay County, MI

FROM: James Justice, OSC, U.S. EPA, Region 5, ERB, Grosse Ile, MI

TO:
R. Worley , U.S. EPA, OSWER, Washington, DC ..... (worley.ray@epa.gov)
R. Karl, Chief, U.S. EPA, ERB, Chicago, IL ..... (guerriero.margaret@epa.gov)
J. El-Zein, Section Chief, U.S. EPA, RS1, Grosse Ile, MI. ..... (el-zein.jason@epa.gov)
W. Messenger, Section Chief, U.S. EPA, ERB, Chicago, IL ..... (messenger.william@epa.gov)
R. Bishlaw, U.S. EPA, ORC, Chicago, IL ..... (bishlaw.randa@epa.gov)
C. Ropski, U.S. EPA, ESS, Chicago, IL ..... (ropski.carol@epa.gov)
A. Marouf, U.S. EPA, H&S, Chicago, IL ..... (marouf.afif@epa.gov)
S. Hill, U.S.EPA, ERB-CIC, Chicago, IL ..... (hill.stuart@epa.gov)
M. Hans, U.S. EPA, OPA, Chicago, IL ..... (hans.mick@epa.gov)
N. Seif, MDEQ, Lansing, MI ..... (seifn@state.mi.us)
E. Haapala, MDEQ, Bay City, MI ..... (haapalae@michigan.gov)
B. Boyle, MDCH, Lansing, MI ..... (boyleb@state.mi.us)
T. Johnson, U.S. EPA, Grosse Ile, MI ..... (johnson.tracy@epa.gov)
J. Maritote, U.S. EPA, ERB, Chicago, IL ..... (maritote.john@epa.gov)
D. Doefer, Bay City Fire Department, Bay City, MI ..... (ddoefer@baycitymi.org)
L. Williams, U.S. Fish & Wildlife, MI ..... (lisa_williams@fws.gov)
L. Lewis, Michigan State Police, Grand Rapids, MI ..... (lewisl@michigan.gov)

POLREP: No. 1 (Initial Polrep)

II. BACKGROUND

Site No.:	N/A
Delivery Order Number:	N/A
Response Authority:	CERCLA
NPL Status:	Not on NPL
State Notification:	Yes
Latitude/Longitude:	43° 37' 21" North / 83° 52' 07" West
Start Date:	July 7, 2003
Demobilization Date:	

III. SITE INFORMATION

A. Incident Category

Emergency Response – Fire at a rubber recycling warehouse

B. Site Description

1. Site Location

The incident occurred at the American Recycling Center Inc., (ARCI) warehouse facility located at 4676 E. Wilder Road in Bay City, Bay County, Michigan. The area is immediately surrounded by commercial and light industrial facilities. Sparsely populated residential areas are located to the north and east with the more densely populated areas located to the south and west. The Saginaw River is located approximately 0.75 miles to the south and the Saginaw Bay is located approximately 1.75 miles to the north.

2. Description of Threat

At approximately 0300 hours on July 7, 2003, the Bay City Fire Department (BCFD) responded to a fire at the ARCI warehouse facility. The warehouse was used primarily for the storage of approximately 100 tons of shredded industrial scrap rubber and approximately 150 fifty-five gallon drums of motor, transmission and hydraulic oil. The smoke plume associated with the fire migrated over the northern portion of Bay City and Saginaw Bay. Inhalation of smoke from the combustion of rubber products and the other organic compounds could be toxic; therefore, the BCFD and Bay County Emergency Services ordered the evacuation of residents downwind (north) in The Sunset Shores Marina and Delta College Sailing School vicinity and businesses within the immediate vicinity of the fire as a precautionary measure.

IV. RESPONSE INFORMATION

A. Situation

1. Current situation:

Responders to the fire included the Bay City Fire Department, Saginaw Fire Department, Bay County Emergency Management Services, Michigan State Police (MSP), Michigan Department of Environmental Quality (MDEQ), U.S. Coast Guard and the U.S. EPA. U.S. EPA tasked the Superfund Technical Assessment and Response Team (START) to screen the perimeter of incident area for volatile organic compounds (VOC) and particulates. Twelve air monitoring stations were established in the immediate vicinity of the fire and were monitored every 1-2 hours. The fire has been extinguished and VOC and particulate concentrations have returned to background levels. Residents returned to their homes on July 7, 2003 at approximately 6:00 PM after the BCFD lifted the evacuation order.

2. Site activities to date:

July 7, 2003:

At approximately 0300 BCFD initially responded to the fire at the warehouse. The warehouse was used as a storage facility for approximately 100 tons of shredded rubber and 150 55-gallon drums of motor-oil additive. The BCFD initially used water and foam to control the fire and prevent its spread to nearby buildings. The BCFD ordered the evacuation of nearby homes and businesses north of the fire. After consultation with MDEQ Water Quality and Air Division, BCFD decided to focus on controlling the spread of the fire and extinguishing the fire associated with the drums. Due to the nature and heat of the rubber fire, traditional fire fighting techniques of water and foam were not affective in extinguishing the blaze.

The fire was reported to the NRC at 0516 and U.S. EPA was notified at 0700. U.S. EPA contacted the BCFD and mobilized START contractors to provide assistance to the Incident Commander.

At 1100 hours EPA and START arrived on site to initiate air monitoring. START conducted air monitoring using a photoionization detector (PID), a flame ionization detector (FID), and a

particulate monitor approximately 1/4 of a mile directly downwind of the fire. Initial readings of 5.2 parts per million (ppm) on the FID, 1.35 ppm on the PID, and 5.475 mg/m^3 on the particulate monitor were recorded.

At 1330, U.S. EPA, MSP and BCFD met with the owners of the building. Due to concerns of shifting wind patterns that could blow the smoke plume into densely populated areas, the owners were advised to identify contractors capable of extinguishing a rubber fire.

At 1340, START conducted an entry into the smoke plume using level B personnel protective equipment (PPE) to monitor for possible contaminants directly in the plume. START recorded carbon monoxide concentrations of 38 ppm, VOC concentrations of 11.5 ppm, and oxygen concentrations of 21.5 percent. START identified vinyl chloride as a possible chemical constituent of the smoke plume with a Miran ThermoSapphire ambient air analyzer. START also collected an air sample with a summa canister from the smoke plume for laboratory analysis.

At 1500, START made an additional entry into the hot zone to conduct air sampling using colorimetric tubes for vinyl chloride. Results were negative for vinyl chloride.
START also initiated air monitoring of 12 locations around the perimeter of the fire using an FID, PID, and particulate monitor. Readings were recorded every 1-2 hours and continued until the fire was extinguished. Concentrations ranged from 1.7 to 5.7 ppm using the FID, 0.33 to 1.9 ppm using the PID, and 0.00 to 5.5 mg/m^3 using the particulate monitor.

At 1600, owners of the building identified Youngs Environmental Cleanup, Inc. (YECI) as their prime contractor for the response and Bierlein Company as a sub-contractor. Equipment was mobilized to site to begin operations to smother the burning rubber with sand.

At approximately 1800 hours, after consultation with the Michigan Department of Community Health, U.S. EPA apprised the BCFD Incident Commander of air monitoring results at or near background concentrations for VOCs and particulates. Based on this information, the BCFD allowed residents to return to their homes and institute a shelter in place action. Residents returning to their homes were asked to limit outside activities and close all windows and doors preventing any of the smoke from entering their home.

At 1900, Youngs Environmental Cleanup, Inc. (YECI) and Bierlein Company began operations to smother the fire, including: shipping of sand, demolition of building to provide access and mobilization of light plants to continue work throughout the night. BCFD continued to use water and foam to suppress flare-ups in the fire. YECI and Bierlein continued smothering hot spots throughout the night. Air monitoring results did not identify any readings above background throughout the night except for the area immediately downwind and within 0.24 miles of the site.

July 8, 2003:

YECI continued the fire fighting operation of smothering burning areas with sand. BCFD continued to support YECI by suppressing flareups with water as needed.

At approximately 0010 and 0900, U.S. EPA mobilized the to conducted an aerial overflight of the fire and areas downwind. Infrared imaging and infrared spectral analysis of the fire and the fires plume did not indicate the release of chemical contaminants in the plume of the fire. Imaging did indicate that the fire continued to burn even in areas smothered by sand.

At 1245, START conducted additional sampling within the smoke plume using colorimetric tubes with the following results: non detect for benzene, non-detect for petroleum hydrocarbons non-detect for vinyl chloride, non-detect for petroleum hydrocarbons, non-detect for acid gas, and 5-10 ppm for styrene. The OSHA action level for styrene is 100 ppm.

At approximately 1900 hours on July 8, 2003, the fire was extinguished. Air monitoring indicated VOC and particulate concentrations returned to background. Background VOC concentrations are approximately 0.20 ppm using the PID, 1.5 ppm using the FID. Background for particulates is 0.00 mg/m^3. BCFD demobilized from the site.

July 9, 2003

U.S. EPA and the BCFD met with representatives from ARCI and Youngs to discuss continuing remediation efforts. Youngs will characterize the drums in the building and arrange for proper disposal. The water and sand used in extinguishing the fire will be sampled to determine proper disposal.

MDEQ notified U.S. EPA that the warehouse may have been used in the production of magnesium-thorium alloy by the former occupant Wellman Bronze and Aluminum Company. U.S. EPA conducted a radiation survey, using a gamma and beta-alpha detector, of the remaining warehouse structures and downwind areas containing ash fallout from the fire. All radiation levels were between 1-3 times background.

B. Planned Removal Activities

All drums on site with remaining product will be sampled, over-packed, and securely staged pending disposal approval. Water that has accumulated from firefighting efforts will be sampled to determine proper disposal. The temperature of the smothered rubber will be monitored to determine when soil cleanup operations can begin. Samples will be collected from the sand and buried product to determine appropriate disposal actions.

C. Next Steps

U.S. EPA will continue to conduct oversight of removal activities and coordinate with MDEQ and Youngs to ensure the proper disposal of materials transported off-site.

D. Key Issues

The former occupant of the building (Wellman Bronze and Aluminum Company) has been identified as a manufacturer of magnesium thorium alloys while it was in operation. Buildings associated with the use and storage of the thorium have been decontaminated, screened and cleared by the Nuclear Regulatory Commission. Based on present information the building involved with the fire was not part of the thorium operations. Field screening of the building and ash associated with the fire have not identified any areas of concern.

V. COST INFORMATION

Estimated costs: (As of July 9, 2003)

TTEMI START	$ 5,000
U.S. EPA	$ 5,000

The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report is written. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.